A Conceptual Framework for Cross-Species Extrapolation to Support Chemical Risk Assessment. Gerald T. Ankley, Office of Research and Development, US Environmental Protection Agency, 6201 Congdon Blvd., Duluth, MN, 55804, USA. (ankley.gerald@epa.gov)

A challenge for both human health and ecological toxicologists is the transparent application of mechanistic (e.g., molecular, biochemical, histological) data to risk assessments. The adverse outcome pathway (AOP) is a conceptual framework designed to meet this need. Specifically, AOPs portray causal and predictive linkages between molecular-initiating events (MIEs) and adverse outcomes of regulatory significance in individuals or populations. Collecting, analyzing and communicating toxicological data through the use of AOPs enhances aspects of risk assessments related to extrapolation of chemical effects across biological levels of organization, chemical structures, and species. For the latter, consideration of taxonomic conservation of pathways, especially in terms of MIEs, provides a robust basis for cross-species extrapolation. This presentation will provide an overview of the AOP concept, review the roles of various national and international workgroups focused on the development and application of AOPs, and present examples of utility of the concept in different risk assessment/regulatory scenarios focused on cross-species extrapolation. *This abstract does not reflect official EPA policy.*